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| The cancer name | **Ductal carcinoma** | **Lobular carcinoma** |
| Percentage | Most common 90% | 10% |
| Carcinoma arising from : | **mammary duct** | **mammary lobules** |
| Types : | * Intraduct carcinoma. * Infiltrating duct carcinoma. | * Lobular carcinoma in situ. * Infiltrating lobular carcinoma. |

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| **Intraduct carcinoma (DCIS)**  ***Def:*** pre-invasive stage of infiltrating duct carcinoma | **infiltrating duct carcinoma “*1-No special typ”***  The commonest type (65%-80%) of all mammary carcinomas | **LOBULAR CARCINOMA IN SITU (LCIS)**  pre-invasive stage of infiltrating lobular carcinoma  **Less common** than **duct carcinoma in situ** | **INFILTRATING LOBULAR CARCINOMA** |
| ***\* Grossly:***   * In most cases, no mass is detected * In other cases, a small slowly growing, hard mass causing bloody or serous nipple discharge. * C/S: dilated ducts filled with papillary structures (papillary intra duct carcinoma) * or plugs of pasty-like yellowish necrotic tissue which can be extruded upon light pressure (comedo carcinoma). | ***Grossly:***  **Mass;** ill-defined, hard “schirrous”, of variable size with infiltrative border, fixed to the surrounding   * C/S: concave (retracted) with gritty sensation on cutting through   Shows areas of hemorrhage, necrosis and calcification.   * The **covering skin shows**:   **1.Nipple retraction.**  **2.Peau d’orange.**  **3.Ulceration (tumor fungation).** | ***\* Grossly:***   * Usually No mass, and discovered incidentally. * The lesions are often bilateral. | ***\* Grossly:***   * Ill-defined, rubbery or hard mass. * The tumor is usually multicentric and bilateral. |
| ***Microscopically:*** The ducts are dilated and filled with malignant cells with intact basement membranes. *Different types:*  ***1***. Papillary type: malignant cells are arranged in **papillary structures**.  2. Cribriform type: malignant cells are arranged in **anastomosing cords**.  3. Solid type: malignant cells **occlude the duct lumen completely**.  4. Comedo type (the worst prognosis): **necrosis** of the cells located **in the center** of the **ducts** appears **red, granular** with **spots of calcification**. | ***\* Microscopically:***   * The tumor consists of malignant epithelial cells arranged in sheets and cords surrounded by marked desmoplastic “fibrous” tissue stroma. * The cells are small in size and shows the cytologic criteria of malignancy. | ***Microscopically:***   * One or more breast lobules are involved. * The terminal ductules and acini are distended with small rounded malignant cells. | ***\* Microscopically:***  Malignant epithelial cells arranged in strands of one cell width giving ***Indian file pattern*** separated by fibrous tissue stroma invading the perilobular connective tissue in concentric manner around the lobulesand terminal ducts with LCIS ***(targetoid pattern)***.  The cells are small, rounded and uniform with little pleomorphism. |

**infiltrating duct carcinoma “*2-Special types”***

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| **Medullary carcinoma.**  1-5% of all mammary carcinomas | **Mucinous “colloid” carcinoma**.  Rare, occurs in older ages. | **Invasive duct carcinoma with Paget's disease**  **Paget's disease *Def:***  Infiltrating duct carcinoma which invades the epidermis of the nipple and areola. |
| ***Grossly:***   * Mass; large fleshy. * C/S: bulging, soft, fleshy with extensive areas of hemorrhage and necrosis. | ***Grossly:***  Slowly growing, large, soft, gelatinous mass. | ***Grossly:***  The skin of the nipple and areola is red, moist, scaly and ulcerating resembling eczema with an underlying breast mass |
| ***Microscopically:***   * The tumor consists of malignant epithelial cells arranged in large sheets separated by little fibrous tissue stroma. * The cells show the cytologic criteria of malignancy (describe). | ***Microscopically:***  Lakes of mucin with scattered small islands of malignant cells. | ***Microscopically:***  The epidermis is infiltrated by large, mucopolysaccharide-filled tumor cells which are most prominent in the basal portion of the epidermis. |

***Spread of breast carcinoma***

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| **1.Direct spread** | **2.Lymphatic spread** | **3.Blood spread** |
| * To Pectoral muscle and fascia, chest wall and pleura. * Overlying skin causing ulceration, nipple retraction and pea d’orange. | **a. Lymphatic embolization:** leads to metastasis in the ***draining lymph nodes*** (axillary, internal mammary, mediastinal & supraclavicular) – ***opposite breast, liver & peritoneum***  **b.** **Lymphatic permeation:** means obstruction of the skin lymphatic by the tumor cells leading to skin manifestations of cancer breast | occurs early or late,  to lung, liver, bone or brain.. |

**causes of breast lump (mass)**

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| 1. **Traumatic:** | **2. Inflammatory:** | **3. Hyperplastic mass** | **4. Neoplastic mass:** |
| a. Hematoma  b. traumatic fat necrosis. | * Breast abscess, * traumatic fat necrosis * plasma cell mastitis * T.B * syphilis * actinomycosis ( fungal infection) | **(Fibrocystic diseases of the breast).** | Benign or malignant. |